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Pennsylvania Business Survey

January 1991

ALL TRENDS ARE INDICATIVE OF RECESSION

(This portion of the Survey *is being kept brief this month in order to devote more space and resources to the introduction of the new Pennsylvania Indexes of Composite and Leading Indicators which is found on page two.)*

Any search for good economic news in Pennsylvania will be long and hard and will likely prove futile. At best, some indicators suggest that growth has simply slowed a bit. Other measures, however, point to actual declines in economic activity. Any attempt to shed the current situation in a positive light requires a great deal of creativity.

1990 is drawing to a close with the highest jobless rates in more than three years. October and November, with readings of 6.1 and 6 percent, seasonally adjusted, represent the first time that the unemployment rate has broken the six percent barrier in two consecutive months since the same two months in 1986. **Employment remains flat. While still on the rise, nonfarm job levels are growing at their weakest pace in several years**, 0.4 percent through the first 11 months of 1990. Goods producing jobs are on a downtrend, especially in the factory sector, while service producing payrolls are barely showing any gains.

Housing activity in the State continues to spiral downward. For the year, new housing units authorized by permit are off 22 percent. The value of residential construction contracts has been below year-ago totals in 14 consecutive months and 17 of the past 18. This sector's only hope is that the current downtrend in interest rates will have a positive impact, though such a scenario is not especially likely.

The growth in retail activity has slowed to a crawl. In that the dollar volume of sales are up by an annual rate of just 1.2 percent through October, it is quite likely that the physical volume of sales is actually down a bit assuming some upward pressure on prices. The trend in the number of new automobiles registered in the State remains down, though October brought with it some improvement relative to a year ago. Retail trade jobs have remained essentially flat for the past two years.

Most measures of industrial production and activity are also showing signs of softness. Trends in the Pennsylvania Manufacturing Activity Index, although erratic, do point down. There appears to be no upward pressure on the average factory workweek, suggesting that hiring trends are not likely to reverse themselves in coming months.

In a nutshell, the news is not good. Furthermore, the situation is likely to get worse before it gets better. Already, some holes are starting to emerge in the consensus forecast which calls for the U.S. economy to begin perking up a bit near mid year. Such a development is perhaps best viewed as a best-case scenario.

— William D. Anderson

New Pennsylvania building permit authorizations (percent change from year ago)

	Nov.	Pct. chg.	Year-to-date	Pct. chg.
Residential	2,428	– 23.5	34,277	– 22.0
Nonresidential	1,213	– 3.3	19,852	– 4.3

Source: U.S. Dept. of Commerce, Bureau of the Census.

Pennsylvania retail sales (millions of dollars; pct. chg. from year ago)

	October	Pct. chg.	Year-to-date	Pct. chg.
Total	6,936	1.4	67,312	1.2
Durables	2,226	– 5.5	23,565	– 3.0
Bldg. mat.	278	– 12.3	2,811	– 2.6
Auto dlrs.	1,326	– 0.8	14,193	– 3.8
Furniture	306	– 1.6	3,056	2.8
Other	316	– 19.0	3,505	– 5.0
Nondurables	4,710	5.0	43,747	3.7
Gen. mdse.	750	0.1	6,687	2.5
Food/grocery	1,429	5.5	14,022	3.1
Gas	487	15.1	4,163	6.7
Apparel	341	– 5.3	3,262	1.0
Eat/drink	830	– 2.7	8,070	2.6
Drugs	267	– 1.1	2,577	0.9
Other	606	27.0	4,966	10.1

Seas. adj. total: October 6,962
September 6,784

Source: Tot./Dur./Nondur.-U.S. Dept. of Commerce, Bur. of the Census.
Seas. adj. total-PSU, Ctr. for Reg. Bus. Analysis.
Data in the sub-categories of the durable and nondurable groups are subject to relatively large sampling variability.

New Pennsylvania motor vehicle registrations (percent change from year ago)

	Total registrations	Pct. change
October	53,128	12.3
1990 YTD	521,843	– 9.2
12-month total	612,347	– 11.2

Source: R.L. Polk & Co.

NEW COMPOSITE INDEXES OF PENNSYLVANIA ECONOMIC ACTIVITY

Since early 1983, Penn State's CRBA has generated and published composite indexes of Pennsylvania economic activity. Composite indexes are designed to provide a broader measure of trends and activity then can be obtained by tracking individual indicators since they represent a combination of several different measures of the economy's health. These indexes are generated through a "smoothing" process which involves the weighting, standardizing, and averaging of monthly growth rates in component variables.

Two indexes have been reported in the *PBS* in recent years — a coincidental index designed to highlight current trends in the State's economy and a leading index designed to signal future trends. Indicators included in the coincidental index were resident employment, real earnings of factory production workers, and manufacturing job levels. The leading index consisted of the average factory workweek, the value of residential construction contracts, and initial claims for unemployment benefits. In part because of on-going struc-

Economic Activity in Pennsylvania	UNADJUSTED DATA 1990 Oct.	UNADJUSTED DATA 1990 Nov.	UNADJUSTED DATA 1989 Nov.	SEASONALLY ADJUSTED DATA 1990 Oct.	SEASONALLY ADJUSTED DATA 1990 Nov.	SEASONALLY ADJUSTED DATA 1989 Nov.	SEASONALLY ADJUSTED INDEXES (1977 = 100) 1990 Oct.	1990 Nov.	1989 Nov.
Pennsylvania Industries									
All nonagricultural industries									
No. of wage and salary jobs (thous.)[1]	5,178*	5,187	5,183	5,136*	5,138	5,134	112.5*	112.6	112.5
Service Producing									
No. of wage and salary jobs (thous.)	3,874*	3,892	3,863	3,850*	3,855	3,826	128.7*	128.9	127.9
Transportation and public utilities	258*	257	256	255*	254	254	97.3	97.1	96.9
Wholesale trade	282	283	282	282	283	282	127.2	127.6	127.1
Retail trade	905*	918	917	898*	897	897	125.2*	125.1	125.1
Finance, insurance & real estate	294*	293	296	294	294	297	135.4*	135.1	136.4
Service & miscellaneous	1,423*	1,424	1,397	1,415*	1,421	1,394	164.1*	164.7	161.6
Federal government	140*	139	142	141*	140	143	110.2*	108.9	111.7
State & local government	573*	579	566	564*	566	554	96.8*	97.2	95.0
Goods Producing									
No. of wage and salary jobs (thous.)	1,303*	1,294	1,319	1,286	1,284	1,309	81.7	81.6	83.1
Construction	248	243	246	234	235	238	127.4	127.7	129.4
Mining	28	27	28	27	27	28	56.2	55.8	57.5
Manufacturing	1,027	1,024	1,045	1,026	1,022	1,043	76.4	76.2	77.8
Durable goods	579*	578	594	580	577	593	71.6*	71.3	73.3
Nondurable goods	448*	445	451	446	445	450	83.9*	83.6	84.6
Ave. wkly. hrs. worked by prod. workers	40.8	41.2	41.4	40.8	40.7	40.9	103.1	103.0	103.5
Total wkly. person-hours worked (mils.)	28.9	29.1	29.9	28.8	28.7	29.5	75.1*	74.7	76.8
Total wkly. payroll (mil. dols.)	321.6*	325.2	322.2	321.3*	320.1	317.1	143.0*	142.4	141.1
Average hourly earnings (dollars)	11.12	11.18	10.79	11.14	11.15	10.76	190.5*	190.5	183.9
Average weekly earnings (dollars)	453.70	460.62	446.71	454.15	453.81	440.25	196.3*	196.2	190.3
Steel production (thous. tons)	1,074	992	757	n.a.	n.a.	n.a.	50.1	51.1	38.9
Industrial electric power sales (mil. kwh)	4,030	3,655	3,583	4,014	3,802	3,692	108.7	103.0	100.0
Mining									
Anthracite coal (thous. net tons)	354	310	339	264	277	297	54.0	56.7	60.8
Bituminous coal (thous. net tons)	7,198	6,065	6,012	6,448	5,999	5,922	91.4	85.1	84.0
Construction contracts awarded (mil. dols.)									
Total	855.5	968.7	752.8*	757.9	1214.3	831.9*	235.6	377.4	258.6*
Residential building	347.9	270.9	295.6*	319.7	298.2	339.1*	227.2	211.9	240.9*
Nonresidential building	409.9	305.5	364.2*	301.2	276.9	330.1*	277.6	255.2	304.3*
Nonbuilding (utilities and public works)	97.7	392.3	93.0*	137.0	639.2	162.7*	189.1	881.9	224.4*
Employment of Pennsylvania Residents									
Employed, no. of persons (thous.)	5,550	5,563	5,600	5,517	5,555	5,592	114.8	115.6	116.4
Unemployed									
No. of persons (thous.)	346	347	301	362	360	315	90.3	89.9	78.4
Rate (percentage of labor force)	5.9	5.9	5.1						
Rate, seasonally adjusted				6.1	6.0	5.3			
Civilian labor force, no. of persons (thous.)	5,897	5,911	5,901	5,879	5,915	5,907	112.9	113.6	113.5
Initial claims for unemployment benefits	102,998	120,995	100,857	115,373	120,996	101,287	80.6	84.5	70.7

Consumer Prices, all items	Urban Indexes (1982-84 = 100) 1990 Oct.	1990 Nov.	1989 Nov.	Percentage Change Month Ago	Year Ago
U.S. city average	133.5	133.8	125.9	0.2	6.3
Philadelphia	138.8	139.1	130.1	0.2	6.9
Pittsburgh	129.6	n.a.	121.7&	n.a.	6.5

[1] Total includes workers on strike. * = figure revised & figure for October 1989 n.a. = data not available
SOURCES AND DEFINITIONS OF DATA ARE AVAILABLE ON REQUEST.

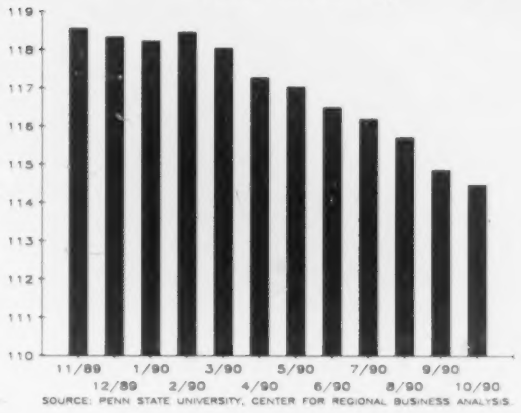
tural changes in the Pennsylvania economy and a concern over the predominance of employment-based measures of economic activity in the existing composities, the CRBA initiated and successfully concluded a review of the performance of the indexes and has instituted appropriate changes designed to improve their monitoring capabilities.

The leading index has performed fairly well in recent years, though some minor changes are warranted. The performance of the coincidental index has been sub-par. While the Pennsylvania economy expanded at a fairly healthy clip throught much of the latter half of the 1980s, the coincidental index depicted a flat trend. The tendency of the index to underestimate economic growth and activity is probably due to the fact that two of the three variables included in the composite were manufacturing-based. Hence, some major changes in the coincidental index have been instituted.

After a thorough statistical review of the relationships between trends in individual indicators and overall Pennsylvania economic activity, the following variables are included in the "new" Pennsylvania Indexes of Coincidential and Leading Indicators (PICI and PILI): PICI — nonagricultural job levels, a 12-month average of real value added in manufacturing (a measure of factory production from the Pennsylvania Manufacturing Activity Index), a 12-month average of real retail sales, and the U.S. coincidential index; PILI — initial claims for unemployment insurance, new housing units authorized by permit, and the U.S. leading index. These new composites take into account the growth in service producing activity in the State, utilize more "real" non-employment measures of activity, and provide for the influence of the national economy on Pennsylvania. It is felt that they represent much improved measures of economic trends over the old composities.

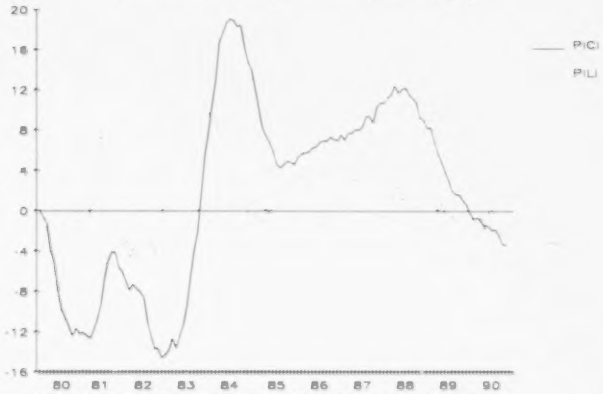
Trends in the PICI are quite consistent with trends in the overall economy. The composite clearly depicts the recessions of the early 1980s and the subsequent recovery. After holding fairly steady throughout 1989, the coincidential index has trended down in each of the past eight months. Hence, recent trends in the PICI suggest that the Commonwealth is, indeed, in a recession. The leading index is doing a commendable job of forecasting changes in economic conditions. Changes in the growth rate in the PILI tend to signal similar changes in PICI growth. The PILI correctly forecast the current slowdown. The index settled into a holding pattern in late 1987, signalling, by several months, the slowdown in economic growth and activity prior to the onset of recession. The composite began to trend down in May 1989, nine months prior to the start of the downtrend in the PICI. Based upon recent trends in the PILI, it has declined in each of the past five months, there is little likelihood of improvement in the near future (charts).

PENNSYLVANIA INDEX OF COINCIDENTAL INDICATORS
(Dec. 1978=100)



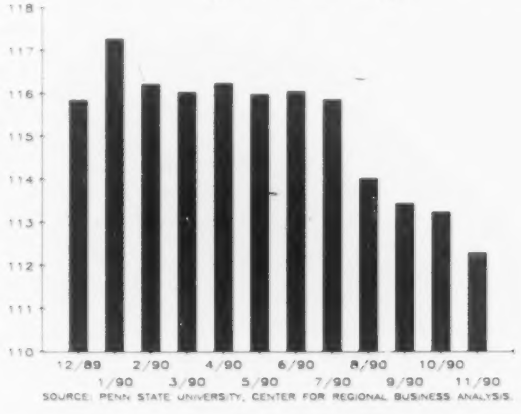
SOURCE: PENN STATE UNIVERSITY, CENTER FOR REGIONAL BUSINESS ANALYSIS.

PICI AND PILI GROWTH
(percent change from year ago)



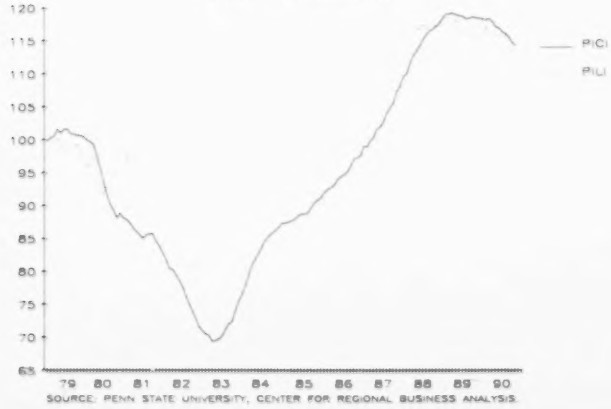
SOURCE: PENN STATE UNIVERSITY, CENTER FOR REGIONAL BUSINESS ANALYSIS.

PENNSYLVANIA INDEX OF LEADING INDICATORS
(Dec. 1978=100)



SOURCE: PENN STATE UNIVERSITY, CENTER FOR REGIONAL BUSINESS ANALYSIS.

PICI AND PILI
(Dec. 1978=100)



SOURCE: PENN STATE UNIVERSITY, CENTER FOR REGIONAL BUSINESS ANALYSIS.

Beginning with this issue of the *PBS*, the new PICI and PILI will be reported. Two changes are important. First, the new indexes have an initial reading and a base of 100 in December 1978 compared with a January 1972 base under the old format. Secondly, the most recent readings of the coincidential index will trail the leading index by one month. Whereas this issue of the *Survey* reports PILI data for November (the same as with the old index), the PICI is only reported through October. However, what inconveniences may be caused by this are more than offset by the improved performances of the composites.

— *William D. Anderson*

(This is a summary of a paper presenting a more detailed analysis of the PICI and PILI and their construction. The availability of the paper will be announced in an upcoming issue of the Survey.)

Pennsylvania Composite Indexes of Coincidental (PICI) and Leading (PILI) Indicators of economic activity

			Mo. pct. change	
	PICI	PILI	PICI	PILI
November 1989	118.6	115.7	0.0	0.1
December	118.3	115.9	-0.3	0.2
January 1990	118.2	117.3	-0.1	1.2
February	118.5	116.2	0.3	-0.9
March	118.0	116.0	-0.4	-0.2
April	117.3	116.2	-0.6	0.2
May	117.0	116.0	-0.3	-0.2
June	116.5	116.0	-0.4	0.0
July	116.2	115.9	-0.3	-0.1
August	115.7	114.0	-0.4	-1.6
September	114.9	113.4	-0.7	-0.5
October	114.5	113.2	-0.3	-0.2
November	n.a.	112.3	n.a.	-0.8

Source: Penn State University, Center for Regional Business Analysis.

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